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10/697,121	10/31/2003	Michel Diane Cyriel Van Ackere	Q78135	8457
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SUGHRUE MION, PLLC 2100 Pennsylvania Avenue, N.W. Washington, DC 20037			EXAMINER NGUYEN, QUANG N	
			ART UNIT	PAPER NUMBER
			2141	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/697,121	Applicant(s) VAN ACKERE ET AL.	
	Examiner Quang N. Nguyen	Art Unit 2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Detailed Action

1. This Office Action is responsive to the Amendment filed 12/03/2007. Claims 7, 11, 12 and 14 have been amended. Claim 13 has been canceled. Claim 15 has been added as a new claim. Claims 1-12 and 14-15 are presented for examination.

Claim Objections

2. Claims 1, 11 and 14 are objected to because of the following informalities:

On line 10 of claim 1: "which second destination" is suggested to be "~~which~~ the second destination".

On line 4 of claim 11: "the operating system" is suggested to be "the operating system component means".

On lines 1-2 of claim 14: "computer readable medium" is suggested to be "computer readable storage medium".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 7, 9-11 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The following terms are not clearly understood:

Claim 7 recites *"A network adapter for providing access to a network from a source, said network adapter comprising an individually associated routing table for the source to access the network adapter as a default destination route"*. It is unclear how the source can access to the network and/or how the individually associated routing table to be used by the source to access the network adapter as the default destination route in order to connect/access to the network.

Claim 9 recites *"A client terminal comprising a plurality of network adapters for providing access to a network and a first routing table, said client terminal further comprising a plurality of second routing tables, wherein each network adapter is individually associated with one of the first and second routing tables"*. It is unclear how the first routing table, the plurality of second routing tables and the plurality of network adapters to be used to enable the client terminal providing access to the network.

Claim 10 recites *"A router for relaying traffic from a source to a targeted destination in a communications network, comprising a plurality of network adapters for providing access to the network and a first routing table, said router further comprising a plurality of second routing tables, wherein each network adapter is individually associated with one of the first and second routing tables"*. It is unclear how the first routing table, the plurality of second routing tables and the plurality of network adapters to be used to enable the router for relaying traffic from the source to the targeted destination in the communications network.

Claim 11 recites *"A system for relaying traffic from a source to a target destination in a communications network, comprising operating system component means for connecting a source application running on a machine to a communications network, wherein the operating system comprises a plurality of routing tables each configured to be individually associated with a network adapter of said machine"*. It is unclear how the plurality of routing tables each configured to be individually associated with a network adapter of said machine to be used to enable the system for relaying traffic from the source to the targeted destination in the communications network (also, if said machine has only one network adapter then each of the plurality of routing tables configured to be associated with the same network adapter? Or if said machine has a plurality of network adapters then each of the plurality of routing tables configured to be associated with each of the plurality of network adapters of said machine accordingly?)

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Claim 14 recites *"A computer program product embodied on a computer readable medium comprising computer code for implementing and configuring a plurality of routing tables each to be associated with one of a plurality of network adapters accessible from a machine, wherein the computer code is operable for relaying traffic from a source to a target destination in a communications network"*. It is unclear how the plurality of routing tables each to be associated with one of a plurality of network adapters accessible from the machine to be used to enable the relaying traffic from the source to the target destination in the communications network.

Examiner respectfully requests the Applicants to amend the claims in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. **Claims 11-12 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.**

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7. As to claims 11-12, it appears that claims 11-12 would reasonably be interpreted by one of ordinary skill as a system of "software per se", failing to fall within a statutory category of invention. Examiner respectfully submits that Applicants' disclosure reciting, ***"With reference numeral 44, an operating system component is schematically illustrated. The operating system component 44 is part of the operating system running on client terminal 12, as it is basically known to those skilled in the art"*** (page 9, paragraph 3), provides intrinsic evidence that the operating system component of claims 11-12 is intended to cover "software", functional descriptive material, per se. As such, the system of "software" alone is not a machine, and it is clearly not a process, manufacture nor composition of matter. Thus, the claim is not limited to statutory subject matter and is therefore nonstatutory.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. **Claims 1, 3-5 and 7-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Shen (US 2004/0013120 A1).**

10. As to claim 1, **Shen** teaches a method of relaying traffic from a source to a targeted destination in a communications network, said method comprising the steps of:

providing a first and at least one second network adapter each providing access to a network having a plurality of destinations (*providing egress ports 151 A-C of Fig. 1 and/or interfaces I/F 1, 4, 5 and 7 of Fig. 4*) (**Shen, Figs. 1 and 4-5**),

providing a first routing table which defines at least a first destination associated with the first network adapter (*providing a first routing table 405 for VR-A which defines external destination ED1 associated with interface I/F1*) (**Shen, Fig. 4**), and

relaying said traffic from the source to the targeted destination using one of the network adapters (*the destination of the packet 201 is looked up in the forwarding table to determine the appropriate outgoing interface*) (**Shen, paragraphs [0027-0028]**),

said method comprising the further step of providing at least one second routing table defining a second destination, which second destination is individually associated with said at least one second network adapter (*providing a second routing table 407A for VR-B defining external destination ED2 associated with interface I/F4 as illustrated in Fig. 4*), wherein the step of relaying includes a step of selecting one of the first and second routing tables (*depending on the destinations of the packet such as ED1, ED2, or ED7, the packet is relayed to the appropriate routing tables such as routing table 405 for VR-A, routing table 407A for VR-B and routing table 407B for VR-C as illustrated in Fig. 4*) (**Shen, paragraphs [0027-0029] and [0047]**).

11. As to claim 3, **Shen** teaches the method of claim 1, wherein at least some of the first and second routing tables comprise specific destinations pointing to another routing table, preferably by means of a next hop entry (**Shen, paragraph [0029]**).

12. As to claim 4, **Shen** teaches the method of claim 1, wherein the step of providing network adapters includes providing real network adapters and providing at least one virtual network adapter, wherein each virtual network adapter is individually associated with a third routing table (*each of the line cards 515A-515C include one or more forwarding tables ... a virtual router uses more than one VR forwarding table, VR interior gateway routing table, and/or VR exterior gateway routing table*) (**Shen, Fig. 5 and paragraph [0051]**).

13. As to claim 5, **Shen** teaches the method of claim 4, wherein the third routing table includes next hop and interface entries pointing to at least one of the following: another routing table or a real network adapter, and wherein the step of relaying uses the at least one virtual network adapter and its associated third routing table (*if the destination of the packet is ED3, then the forwarding module 207 forwards the packet 201 to the virtual router 205B and the virtual router 205B will process the packet 201 in accordance with its forwarding/routing information/table*) (**Sh en, paragraphs [0028-0029]**).

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14. As to claims 7-8, **Shen** teaches a network adapter for providing access to a network from a source, said network adapter being a virtual adapter comprising an individually associated routing table for the source to access the network adapter as a default destination route, said individually associated routing table comprising next hop and interface entries pointing to at least one of the following: another routing table or a real network adapter (*the first column of each entry indicates a destination, the last column of each entry indicates a next hop which is either an physical interface I/F1 or another routing table VR-B*) (**Shen, Fig. 2, paragraphs [0023] and [0028-0029]**).

15. Claims 9-12 and 14-15 recite claims that contain similar limitations as claims 1 and 4-5; therefore, they are rejected under the same rationale.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. **Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shen, in view of Killian (US 6,064,671).**

18. As to claim 2, **Shen** teaches the method of claim 1, but does not explicitly teach the first and second routing tables define said first and second destinations as default destinations which are used for traffic relay in any default situation.

In the same field of endeavor, **Killian** teaches all routing tables should include a default entry, wherein a default routing table entry is one to be associated with any messages whose destination addresses do not match the destination address or address range of any of the other routing table entries (**Killian, page 7, lines 12-35**).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the features of defining first and second destinations as default destinations which are used for traffic relay in any default situation for the first and second routing tables, as disclosed by **Killian**, into the teachings of **Shen**, since both references are directed to relaying network traffic using routing tables. One would be motivated to do so to allow messages, whose destination addresses do not correspond to any specific address or address range contained in the destination column of the routing table, to be relayed to the default destination, i.e., the next hop, through which the message should be routed to get to its destination (**Killian, page 7, lines 36-43**).

19. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Shen**, in view of **Zhou (US 2002/0138578)**.

20. As to claim 6, **Shen** teaches the method of claim 1, but does not explicitly teach the step of selecting a routing table is triggered by the source.

In the same field of endeavor, **Zhou** teaches when a client application program wants to communicate with a server application, the client application creates a socket on the client and may determine a client computer software port that is to be mapped to the client application. The client application then specifies that the created socket has a destination IP address corresponding to the destination computer and a destination software port that corresponds to the port mapped to the server application program (*i.e., triggered by the source to select the port associated with the destination address*), and uses the socket to make a connection request to the server application (**Zhou, page 1, paragraph [0005]**).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the features of selecting a routing table which defines the port associated with destination address, as disclosed by **Zhou**, into the teachings of **Shen**, since both references are directed to relaying network traffic using routing tables. One would be motivated to do so to allow the source, *i.e.*, the client application, to create a socket which defines a destination address corresponding to the destination computer and a destination port that corresponds to the port mapped to the server application program, and use the socket to make a connection request to the server application (**Zhou, page 1, paragraph [0005]**).

Response to Arguments

21. In the Remarks, Applicants argued in substance that

(A) **Shen** fails to disclose providing "at least one second routing table defining a second destination, which *second destination is individually associated with said at least one second network adapter ...*", as recited in claim 1 (see Remarks, page 9).

As to point (A), Examiner respectfully disagrees noting that, as illustrated in Fig. 4, **Shen** clearly teaches providing a first routing table 405 for VR-A which defines an external destination ED1 associated with interface IF1 (*i.e., providing a first routing table which defines at least a first destination associated with the first network adapter*) and providing at least one second routing table 407A for VR-B defining an external destination ED2 or ED5, wherein ED2 or ED5 is individually associated with at least one second network adapter, i.e., the interface IF4 (*i.e., providing at least one second routing table defining a second destination, which second destination is individually associated with said at least one second network adapter*) (**Shen, Fig. 4 and paragraph [0047]**).

In response to the Applicants' argument that "**Shen** does not disclose that the routing tables are individually associated with their respective routers, as described in claim 1" (see Remarks, page 9), Examiner respectfully disagrees noting that **Shen** does teach "The virtual routers 401, 403A and 403B respectively have exterior gateway routing tables 405, 407A and 407B (**Shen, paragraph [0047]**).

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(B) Furthermore, **Shen** fails to disclose *“wherein the step of relaying includes a step of selecting one of the first and second routing tables,”* as recited in claim 1 (see Remarks, page 9).

As to point (B), Examiner respectfully disagrees noting that, at paragraph [0028], **Shen** teaches depending on the destination of the packet 201, the packet is forwarded to the appropriate outgoing interface (**Shen, paragraphs [0027-0029]**). In this case, as illustrated in Fig. 4, depending on the destinations of the packet such as ED1, ED2, or ED7, the packet is relayed to the appropriate routing tables such as routing table 405 for VR-A, routing table 407A for VR-B and routing table 407B for VR-C (*i.e., wherein the step of relaying includes a step of selecting one of the first and second routing tables*) (**Shen, Fig. 4 and paragraph [0047]**).

(C) **Shen** fails to disclose the element of claim 4 *“wherein each virtual network adapter is individually associated with a third routing table,”* (see Remarks, page 10).

As to point (C), Examiner respectfully disagrees noting that **Shen** does teach each of the line cards 515A-515C include one or more forwarding tables. **Shen** also teaches a virtual router uses more than one VR forwarding table, VR interior gateway routing table, and/or VR exterior gateway routing table (**Shen, Fig. 5 and paragraph [0051]**).

In response to the Applicants' argument that "**Shen** appears to teach away from such a configuration, suggesting sharing tables amongst routers" (see Remarks, page 10), Examiner respectfully disagrees noting that **Shen** explicitly discloses that "In another alternative embodiment of the invention, a single external and/or internal routing process is shared by different virtual routers" (**Shen, paragraph [0051]**), wherein (1) as illustrated in Fig. 5, a single external and/or internal routing process is not necessary a "routing table" because external and internal routing processes 505A-505F and 506A-506F are different from VR external and internal routing tables 507A-507F and 509A-509F; and (2) the fact that the Applicants have recognized another difference/advantage from another alternative embodiment of the prior art can not be the basis for patentability.

(D) **Shen** fails to disclose "*wherein the third routing table includes next hop and interface entries pointing to at least one of the following: another routing table or a real network adapter*", as recited in claim 5 (see Remarks, page 11).

As to point (D), Examiner respectfully disagrees noting that, as illustrated in routing table 407B of Fig. 4, **Shen** teaches if the destination of the packet is ED7, the packet is forwarded to the interface IF7 and if the destination of the packet is ED1 or ED2, the packet is forwarded to routing table 405 (*i.e., the routing tables 405, 407A and 407B include next hop and interface entries pointing to at least one of another routing*

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table or a real network adapter) (Shen, Figs 2, 4, paragraphs [0028-0029] and [0047]).

Conclusion

22. Applicant's arguments as well as request for reconsideration filed on 12/03/2007 have been fully considered but they are not deemed to be persuasive.

23. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang N. Nguyen whose telephone number is (571) 272-3886.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's SPE, Rupal Dharia, can be reached at (571) 272-3880. The fax phone number for the organization is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Quang N. Nguyen
Primary Examiner – AU 2141
February 02nd, 2008